

WHAT IS CLAIMED IS:

1. In an impact absorbing type steering column
apparatus for an automotive vehicle, capable of
adjusting a steering position and, when a secondary
5 collision happens, absorbing impact energy thereof by
moving a steering column supported through a bracket
on a car body towards the front of the vehicle,

an improvement characterized in that said
bracket includes a restricting portion for
10 restricting a steering position adjusting range of
said steering column, and

said restricting portion allows, upon the
secondary collision, said steering column to move
beyond the steering position adjusting range.

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2. In an impact absorbing type steering column
apparatus for an automotive vehicle, capable of
adjusting a steering position and, when a secondary
collision happens, absorbing impact energy thereof by
20 moving a steering column supported through a bracket
on a car body towards the front of the vehicle,

an improvement characterized in that said
bracket includes a steering column position adjusting
groove, through which a fastening member of said
25 steering column is inserted and of which one end is
opened, and a restricting portion for restricting a
steering position adjusting range of said steering

column, and

said restricting portion allows, upon the secondary collision, said steering column to move beyond the steering position adjusting range.

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3. An impact absorbing type steering column apparatus for an automotive vehicle according to claim 2, wherein said groove serves for adjusting a tilt position of said steering column, and a lower
10 bracket supporting said steering column through a hinge mechanism in the front of the vehicle and supported on the car body, is provided on a front-of-the vehicle side of said bracket,

said lower bracket includes a cut-away portion
15 through which a pivot of said hinge mechanism is inserted and of which a front-of-the-vehicle side is opened, and

said pivot comes off said open end of said cut-away portion upon an axis-directional input of said
20 steering column when the secondary collision happens, and said steering column is released from said lower bracket.

4. An impact absorbing type steering column
25 apparatus for an automotive vehicle according to claim 2 or 3, wherein a protrusion for regulating a movement of said fastening member is provided as said

restricting portion within said adjusting groove.

5 5. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 4, wherein said protrusion is constructed of a
plurality of protrusions formed in alignment in their
directions towards the front of the vehicle.

10 6. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 4 or 5, wherein said protrusion includes an
abutting surface on the side facing said fastening
member.

15 7. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 3, wherein said restricting portion of said
bracket extends substantially in front-and-rear
directions of the vehicle in a way that leaves said
20 open end, and is formed to delimit substantially a
lower portion of said position adjusting groove, and
said restricting member includes a bend allowing
portion for allowing said fastening member of said
steering column to move towards the front of the
25 vehicle through said open end.

8. An impact absorbing type steering column

apparatus for an automotive vehicle according to
claim 3, wherein said restricting portion of said car
body sided bracket extends substantially in vertical
directions in a way that leaves said open end, and is
5 formed to delimit substantially a side position of
said adjusting groove, and

said restricting portion includes a bend
allowing portion for allowing said fastening member
of said steering column to move towards the front of
10 the vehicle through said open end.

9. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 2 or 3, further comprising a column support
15 member extending so as to be curved under said
steering column,

wherein said column support member delimits
substantially the lower portion of the steering
position adjusting range, and prevents said steering
20 column from falling down.

10. In an impact absorbing type steering column
apparatus for an automotive vehicle, capable of
adjusting a steering position and, when a secondary
25 collision happens, absorbing impact energy thereof by
moving a steering column supported through a bracket
on a car body towards the front of the vehicle,

an improvement characterized in that there is provided a restricting member including a first restricting portion and a second restricting portion, said restricting member allows, within said first
5 restricting portion, said steering column to move for a positional adjustment, then deforms when said steering column moves, upon a secondary collision, beyond a first predetermined range restricted by said first restricting portion, and restricts the movement
10 of said steering column within a second predetermined range by use of said second restricting portion.

11. An impact absorbing type steering column apparatus for an automotive vehicle according to
15 claim 10, wherein said bracket is constructed of an upper bracket and a lower bracket, a bolt is inserted through a hole of said upper bracket, and said steering column is supported by said upper bracket,

said restricting member is formed integrally
20 with said car body sided upper bracket,

said first restricting portion is formed with said hole, and

when said steering column moves through only the first predetermined range upon the secondary
25 collision, said bolt causes said restricting member to deform and enters said second restricting portion provided adjacent to said first restricting portion.

12. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 11, wherein when said bolt enters said second
5 restricting portion, said restricting member makes
its flexural deformation so as to extend in a moving
direction of said bolt.

13. An impact absorbing type steering column
10 apparatus for an automotive vehicle according to
claim 11, wherein said second restricting portion is
previously formed as an elongate hole suitable for
guiding said bolt in its moving direction when said
bolt has entered said second restricting portion.

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14. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 11, wherein said hole of said upper bracket is
a groove for a tilt adjustment, said bolt is a
20 fastening bolt for the tilt adjustment, and said
lower bracket pivotally supports said steering column.

15. An impact absorbing type steering column
apparatus for an automotive vehicle according to
25 claim 11, wherein a bolt is inserted through a hole
of said lower bracket, and said steering column is
supported by said lower bracket,

said restricting member is formed integrally
with said car body sided lower bracket,

said first restricting portion is formed with
said hole, and

5 when the secondary collision happens, impact
energy is absorbed in a way that causes a flexural
deformation of said restricting member while moving
said steering column towards the front of the vehicle,
and

10 when said steering column moves through only the
first predetermined range, said bolt causes said
restricting member to deform and enters said second
restricting portion provided adjacent to said first
restricting portion.

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16. An impact absorbing type steering column
apparatus for an automotive vehicle according to
claim 15, wherein when said bolt enters said second
restricting portion, said restricting member makes
20 its flexural deformation so as to extend in a moving
direction of said bolt.

17. An impact absorbing type steering column
apparatus for an automotive vehicle according to
25 claim 15, wherein said second restricting portion is
previously formed as an elongate hole suitable for
guiding said bolt in its moving direction when said

bolt has entered said second restricting portion.

18. An impact absorbing type steering column
apparatus for an automotive vehicle according to
5 claim 15, wherein said hole of said car body sided
lower bracket is a support hole for the tilt
adjustment, and said bolt is a tilt adjusting hinge
pin for determining a tilt center when inserted into
said support hole.